

WHAT IS CLAIMED IS:

1. A priority control method of a network system for providing a communication between terminals comprising a first exchange for accommodating a plurality of first terminals, a first connecting device connected with the first exchange, an IP network connected with the first connecting device, a second connecting device connected with the IP network, and a second exchange for accommodating at least one of second terminal, the second exchange is connected with the second connecting device, wherein

the first exchange holds priority classes corresponding to each of the first terminals;

the first connecting device holds service types corresponding to each of the priority classes held in the first exchange;

the first exchange, when a call is set between any one of the first terminals as a call-out terminal and the second terminal as a call-in terminal through the IP network, notifies the first connecting device of a priority class corresponding to the first terminal as the call-out terminal;

the first connecting device reads out a service type corresponding to the notified priority class, saves the read out service type; and

the first connecting device, when transmits packets comprising data from the first terminal as the call-out terminal to the IP network after the call is established, sets the saved service type to the packets, thereby, priority control

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according to the service type set to the packets is performed in the IP network.

2. The priority control method according to claim 1, wherein the first connecting device notifies the second connecting device of the read out service type to the second connecting device;

the second connecting device saves the service type notified from the first connecting device;

the second connecting device, when transmits packets comprising data from the second terminal as a call-in terminal to the IP network after the call is established, sets the saved service type to the packets, thereby, priority control according to the service type set to the packets is performed in the IP network.

3. The priority control method according to claim 1, wherein the first exchange, when receives an indication of a change in the priority class during a communication between the call-out terminal and the call-in terminal, notifies the first connecting device of a new priority class which is equal to or higher than the priority class corresponding to the call-out terminal; and

the first connecting device reads out a new service type corresponding to the new priority class notified from the first exchange, saves the read out new service type, and sets the saved new service type to the packets.

4. The priority control method according to claim 3, wherein the first connecting device notifies the second

connecting device of the read out new service type,

the second connecting device saves the notified new service type notified from the first connecting device, and sets, when transmits packets comprising data from the second terminal as the call-in terminal to the IP network, the saved new service type to packets.

5. The priority control method according to claim 1, wherein the first exchange specifies a call-in terminal when a call is set between a call-out terminal and a call-in terminal; and

the first exchange, when the specified call-in terminal is a predetermined terminal, notifies the first connecting device of a priority class which is equal to or higher than the priority class corresponding to the call-out terminal.

6. The priority control method according to claim 1, wherein the first connecting device determines a method for compressing and encoding voice data in accordance with the notified priority class; and

the first connecting device, when receives voice data corresponding to voice inputted to the call-out terminal from the first exchange, compresses and encodes the received voice data by using the determined method for compressing and encoding in order to edit packets comprising the voice data.

7. The priority control method according to claim 6, wherein the first connecting device detects, when a congestion relating to a communication between the call-out terminal and the call-in terminal occurs in the IP network, a service type

or a priority class corresponding to the communication and changes the method for compressing and encoding based on the detected service type or the detected priority class.

8. The priority control method according to claim 1, wherein the first connecting device, when receives voice data corresponding to voice inputted to the call-out terminal from the first exchange after the call is established, compresses and encodes the received voice data;

the first connecting device edits packets comprising at least one compressed and encoded voice data;

the first connecting device detects, when a congestion relating to a communication between the call-out terminal and the call-in terminal occurs in the IP network, a service type or a priority class corresponding to the communication; and

the first connecting device changes the number of the compressed and encoded voice data comprised in one packet based on the detected service type or the detected priority class.

9. The priority control method according to claim 2, wherein the second exchange holds a priority class corresponding to the second terminal;

the second connecting device holds a service type corresponding to the priority class held in the second exchange;

the second exchange notifies the second connecting device of the held priority class when a call is set between any one of the first terminals as a call-out terminal and the second terminal as call-in terminal;

the second connecting device reads out a service type

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corresponding to the priority class notified from the second exchange; and

the second connecting device compares the service type notified from the first connecting device and the read out service type, saves the read out service type instead of the service type notified from the first connecting device if the read out service type is higher than the service type notified from the first connecting device.

10. The priority control method according to claim 9, wherein the second connecting device notifies the first connecting device of the priority class notified from the second exchange; and

the first connecting device reads out a service type corresponding to the priority class notified from the second connecting device; and

the first connecting device compares the saved service type corresponding to the priority class notified from the first exchange and the read out service type, saves the read out service type instead of the saved service type if the read out service type is higher than the saved service type.

11. The priority control method according to claim 1, wherein the first exchange holds priority classes corresponding to an attribute of each of the first terminals;

the first exchange detects, when a call is set between any one of the first terminals as call-out terminal and the second terminal as call-in terminal, an attribute of the first terminal as call-out terminal; and

the first exchange notifies the first connecting device of the priority class corresponding to the detected attribute.

12. A network system for providing a communication between terminals comprising a exchange for accommodating a plurality of terminals, a connecting device connected with the first exchange, and an IP network connected with the first connecting device, wherein

said exchange comprises:

a priority class storage section storing priority classes corresponding to each of the terminals;

an acquiring section reading out, when a call which any one of the terminals becomes a call-out terminal is set through the IP network, a priority class corresponding to the terminal as a call-out terminal from said priority class storage section; and

a priority class notifying section for notifying the connecting device of the read out priority class, and

said connecting device comprises:

a service type storage section storing service types corresponding to each of the priority classes held said exchange;

a reading section reading out a service type corresponding to the notified priority class from the service type storage section;

a saving section saving the read out service type; and

a setting section setting, when packets comprising data from the terminal as the call-out terminal are transmitted to

the IP network after the call is established, the saved service type to the packets, thereby, priority control according to the service type set to the packets is performed in the IP network.

13. An exchange for accommodating a plurality of terminals and being connected with an IP network connecting device which transmits packets set a service class to an IP network, comprising:

a priority class storage section storing priority classes corresponding to each of the terminals;

an acquiring section reading out, when a call which any one of the terminals becomes a call-out terminal is set through the IP network, a priority class corresponding to the terminal as a call-out terminal from said priority class storage section; and

a priority class notifying section for notifying the connecting device of the read out priority class.

14. An IP network connecting device for connecting an exchange for accommodating a plurality of terminals and an IP network, comprising:

a service type storage section storing service types corresponding to each of priority classes held the exchange;

a reading section receiving, when a call which any one of the terminals becomes a call-out terminal is set through the IP network, a priority class corresponding to the terminal as the call-out terminal, and reading out a service type corresponding to the received priority class from the service type storage section;

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a saving section saving the read out service type; and  
a setting section setting, when packets comprising data from the terminal as the call-out terminal is transmitted to the IP network after the call is established, the saved service type to the packets, thereby, priority control according to the service type set to the packets is performed in the IP network.

15. A priority control method for a network system comprising an exchange for accommodating a plurality of terminals and a connecting device for connecting the exchange and an IP network, wherein

the exchange holds priority classes corresponding to each of the terminals;

the connecting device holds service types corresponding to each of the priority classes held in the exchange;

the exchange, when a call which any one of the terminals becomes a call-out terminal is set through the IP network, notifies the connecting device of a priority class corresponding to the first terminal as the call-out terminal;

the connecting device reads out a service type corresponding to the notified priority class, saves the read out service type; and

the connecting device, when transmits packets comprising data from the terminal as the call-out terminal to the IP network after the call is established, sets the saved service type to the packets, thereby, priority control according to the service type set to the packets is performed in the IP network.